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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,361	02/06/2004	Osamu Miyazawa	9319A-000676	5381
27572	7590	09/09/2005		
HARNES, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			EXAMINER ADDISON, KAREN B	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/774,361

Applicant(s)

MIYAZAWA, OSAMU

Examiner

Karen Addison

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE Who in MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2-6-04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-4 and 9-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Zumeris (5696421).

Zumeris discloses a piezoelectric device in figs.1, 8,9,11,15 and 17 comprising a plurality of piezoelectric vibrators cooperatively driving an element. Regarding claim 4 and claim 17, Zumeris shows member 210 to be indirectly driven by vibrators (220) Regarding claims 10-13, Zumeris teaches the cooperative driving motion including a first mode; which at least two of the plurality of actuators (220) are synchronized to drive the driven element. Since this criteria is met, recitations to a differential mode (only an alternative) need not to be considered limiting when interpreting the scope of these claims. Thus Zumeris clearly anticipates all these claims.

Claim1 and 9-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Magnussen(6,870,304). Please note figures 27-42, which teach pleural piezoelectric transducers (42) cooperatively driving a single element (26). Various driving modes are described, including differential modes such as those shown in figures (39-42).

Claims 15,16 and 19 are rejected 35 U.S.C. 102(b) as being anticipated by Diefenbach (6,121,717). Diefenbach in figures 5 and 6 teaches plurality of driven elements (45,46,47) being rotated by a plurality of piezoelectric vibrators (48) to produce a desired output.

Claim 17 is 35 U.S.C. 102(b) as being anticipated by Zumeris (6,064,140).

Attention is directed to Zumeris figures 14b and 14c which shows a driven element (174) and a control element (160) driven by the drive unit in a controlled manner; figures 6 and 9 show the concept of using multiple piezoelectric driving vibrators (66,67,68).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zumeris in view of Miyazawa (6,885,615).

Zumeris as describe above does not teach indirectly driving the output member.

However, Miyazawa figure 1 teaches inserting intermediate drive members (40) between the piezoelectric vibrators (A1) and the output members (60) in order to modify the output motion. This is achieved, for example, by providing speed reduction gearing. Thus, for at least this reason it would have been obvious to one having ordinary skill in the art to provide Zumeris with an intermediate drive member.

Claim 8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zumeris (421). Zumeris (421) has previously described using piezoelectric elements as actuators, not electromagnetic motors; however, substitution from among known equivalent transducer types is considered to be within the skill expected of the everyday artisan. Thus, substitution of piezoelectric, magnetostrictive, electromagnetic and electrostrictive actuators would have been obvious to one of ordinary skill in the art. Regarding claim 14, optimization of the known device through selection of suitable characteristics would have been obvious to one of ordinary skill in the art.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zumeris (140). Zumeris as previously described above, does not teach driving a robot arm. However, using piezoelectric transducers to drive a robot arm is known per se (official notice taken). Thus, the use of Zumeris to actually drive a robot arm or any other known recipient of piezoelectric motor power would have been obvious to one of ordinary skill in the art.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Diefenbach. As previously described, does not teach a robot arm driven by and output member. Following the same rationale described in regards to 18, it would have been obvious to one of ordinary skill in the art to provide Diefenbach with actuators in a robotic arm.

Further cited of interest is Slutsky (6242850).

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karen B. Addison whose telephone number is 571-272-2017. The examiner can normally be reached on 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KBA
8/31/05


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